Joseph A. Boyle

joseph.a.boyle@rutgers.edu josephboyle.me github.com/joeb3219

Education

Rutgers University, New Brunswick
New Brunswick, NJ

B.S., Computer Science, Honors Program (3.52 GPA)
September 2015 - May 2019

Academic Research

Visual MIMO: Calibrationless visible-light communications framework using Android phones
Spring 2015 - Fall 2016

- Integrated algorithms for decoding color-embedded messages and general speed improvements.
- Designed and built an automated testing bench to analyze message transmission accuracy.
- Conducted an experiment on the effects on message retrieval accuracy when constraining the volume of differential metamers.
- Presented at Computer Vision and Pattern Recognition 2016 conference.

Work Experience

Rutgers University, Computer Science Department
Piscataway, NJ

Programmer
July 2017 - Present

- Sole developer of a CRUD application for use by students in Introduction to Computer Science.
- Designed a large database design and a testing framework for use in the project.
- Utilized: PHP, MySQL, PHPUnit

Rutgers University, Rutgers Learning Centers
Piscataway, NJ

Learning Assistant (Introduction to Computer Science)
August 2016 - Present

- Facilitate a 55-minute recitations and study groups.
- Actively encourage deeper understandings of concepts and their motivations.

Rutgers University, School of Arts and Science IT
Piscataway, NJ

Programmer
September 2015 - June 2016

- Developed a series of course searching modules and a staff directory module on Joomla!.
- Automated the transfer of data from old systems to the Joomla! CMS.
- Utilized: PHP, MySQL

Relevant Coursework

Computer Science   Computer Architecture, Databases, Data Structures, Discrete Structures I & II, Systems Programming, Principles of Programming Languages

Engineering   Independent Study in Computer Vision

Independent Projects

Char   An 8-bit architecture with its own instruction set, CPU design, and simulator written in C.

Indigo   An Assembly-like language with a compiler written in C, run on the Char architecture.

VoxelGen   A procedurally generated Minecraft clone written in C++, using OpenGL for graphics.

Chemify   An Android application which solves various chemistry problems such as predicting chemical reactions, dimensional analysis, and chemical nomenclature.

Enigma Machine   A horror game written in Java and LWJGL.

RestaurantStock   A web-based restaurant inventory management system written in PHP.

Skills

Languages   C, Java, PHP, Android, MySQL, C++, Scheme, MATLAB

Software   Linux, Git, OpenGL